U.S Environmental Protection Agency
Region III
Wheeling Field Section
303 Methodist Bldg., 11th & Chapline Sts.
Wheeling, WV. 26003

ORIGINAL
(Red)

DATE: November 28, 1983

SUBJECT: RCRA Inspection Report on Bethlehem Steel, Johnstown, PA.

PA-784

FROM: James L. Bailey, Engineering Technician
Wheeling Field Section, Water Unit (3ES13)

TO: Peter Schaul, Chief
Waste Enforcement Section (3AW22)

THRU: Gary V. Bryant, Chief
Wheeling Field Section (3ES13)

On August 22, 1983, the above named facility was inspected for compliance with RCRA regulations. The report on that inspection is attached. If there are questions, contact Gary Bryant or Jim Bailey at FTS: 923-1050.

Recommendations

1. Verify that up gradient and down gradient monitoring wells are in the same and upper most aquifer.

2. Obtain expert technical review and opinion on how to adeqately monitor this disposal site where pre-RCRA disposal practices have contaminated the groundwater.

3. Begin monitoring for all required RCRA parameters.

Attachments

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION III

ORIGINAL
(Red)

Western Regional Laboratory & Environmental Center
303 Methodist Bldg., 11th & Chapline Streets
Wheeling, West Virginia 26003

DATE: 11/16/83

SUBJECT: Trip Report-RCRA Ground Water Monitoring
Inspection at Bethlehem Steel, Johnstown, PA.

FROM: James L. Bailey, Engineering Technician (3ES13)
Wheeling Field Section

TO: Gary V. Bryant, Chief
Wheeling Field Section

Date of Inspection: Aug. 22, 1983

Place Visited: Bethlehem Steel Corp.
Johnstown, PA.
PAD004344222

Persons Contacted: Bill Shawley
Pa. D. E. R. Bureau of Solid Waste Management

Mary M. Bloom, Division Supervisor
Utilities Service Dept.
Bethlehem Steel

Bethlehem Steel was late in starting their ground water monitoring program. Bethlehem considers site as storage; Pennsylvania D. E. R. considers the site as disposal.

The ground-water monitoring program is still in the draft stage and is incomplete. One of the items missing is the outline of the ground-water quality assessment plan.

All required RCRA parameters are not included in their sampling and analyses plan. Missing are all the organic parameters. The reason given was, there are no organic constitutents in the waste (stored or disposed) in the Rider Site.

The location of the up gradient monitoring wells, which were dry during the month of August are questionable due to past practice of dumping waste acid onto the slag pile in the area as a means of neutralizing the acid. It is also not clear whether the two up-gradient wells (5&6) are in the same aquifer as the down gradient wells (7, 8, 9) and if this is the upper most aquifer. There is a very permeable zone in the slag which has been dumped over this entire site. The well logs for wells 5, 6, 7, 8&9, all indicate the driller,"lost water", in this permeable fill material. The existance of percolation channels in the slag and a ground water table on the original ground surface is very probable. This would then be the upper most aquifer. It has been contaminated by years of neutralizing spent acid from the rolling mills on the alkaline slag from the blast furnace. This practice has been discontinued.

The up-gradient monitoring wells, No. 5 & No. 6, were both dry on this sampling occasion.

The down-gradient wells No. 7, No. 8, and No. 9, were sampled and appear to be in the same aquifer. Wells are evacuated and samples collected by in-place submersible pump in each well.

Metals, both total and dissolved, are analysed by Bethlehem Steel. The State and Federal regulations do not mention dissolved metals but the company filters samples, for metals so the EPA collected dissolved metals also. The dissolved metals samples were filtered in the Bethlehem Laboratory using E. P. A. field filtering apparatus. Between the samples collected from wells 7 and 8, 8 and 9 the filtering apparatus was rinsed with a 10% nitric acid solution, and distilled water. after the rinse a blank sample was run through, collected and preserved with the same acid dispenser used to preserve actual samples. Preserved metals blanks are standard procedure as part of EPA's quality assurance program.

The blank associated with the No. 7 sample was not run through the filtering apparatus (No. 7 was first sample to be filtered) but was preserved at the sample site and is the blank for the total metals. That blank would test for contamination from preservatives or sample bottles.

Refer to attached table of results and note the difference between total and dissolved metals specifically Iron (Fe), Manganese (MN) and Sodium (Na) with lesser differences in some of the other metals. Also note the blanks with varying amounts of contamination that can occur while filtering samples in the field.

We will exchange lab. results with Bethlehem Steel and provide a copy to Pa. D. E. R.

Bethlehem Steel Corporation
Metals Data
Wheeling Laboratory Section

eling Lab No. / ple Description	Date/Time	Al µg/l	As µg/l	Ba µg/l	Cd µg/l	Cr µg/l	Fe µg/l	Pb µg/l	Mg µg/l	Mn µg/l	Hg µg/l	Ni µg/l	Se µg/l
8240901 - Well - Tot. Metals	8308221440	8,500	<5	<10	30	19	18,000	41	23,000	19,000	0.2	170	<5
8240902 - Well - Dis. Metals	8308221440	<100	<5	<10	21	<10	200	12	22,000	1,800	0.4	100	<5
8240903 - al Blank	8308221440	<100	<5	<10	14	<10	100	3.7	40	<10	<0.2	50	<5
8240898 - Well - Tot. Metals	8308221355	1,500±400	<5 (75%)	<10 (125%)	29±3 (95.5%)	<10 (85%)	2,200±100 (75%)	17±6 (80%)	5,400±300	1,000±0 (75%)	0.5	110±0 (80%)	<5 (77
8240899 - Well - Dis. Metals	8308221355	<100	<5	<10	34	20	150	20	5,500	840	<0.2	110	<5
8240900 - als Blank	8308221535	<100	<5	<10	20	<10	100	11	58	14	<0.2	50	<5
8240895 - Well - Tot. Metals	8308221305	400	<5	<10	33	24	2,000	13	1,600	110	0.3±0.1 (125%)	110	<5
8240896 - Well - Dis. Metals	8308221305	<100	<5	<10	34	10	125	14	850	20	<0.2	100	<5
8240897 - tals Blank	8308221545	<100	<5	<10	12	<10	100	22	91	24	<0.2	40	<5

Bethlehem Steel Corporation
Inorganic Data
Wheeling Laboratory Section

ling Lab. No.	Sample Description	Date/Time	Alkalinity mg/l	Sulfate mg/l	Chloride mg/l	TOC mg/l	Diss. Solids mg/l	Susp. Soli mg/l
8308240901	Monitoring Well #7 Bethlehem Steel Corp. Total Metals	8308221440	54	1360	236±1.5	4.6	2588±25	632±11
8308240898	Monitoring Well #8 Bethlehem Steel Corp. Total Metals	8308221355	206	1280	995±10	6.8	3794±8	42±6
8308240895	Monitoring Well #9 Bethlehem Steel Corp. Total Metals	8308221305	24	1460	520	2.8	3696±10	25±1